

Appln No. 10/645,812

Amdt date March 2, 2005

Reply to Office action of December 2, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A field emission display, comprising:

a first substrate;

at least one gate electrode formed in a predetermined pattern on the first substrate;

a plurality of cathode electrodes formed in a predetermined pattern on the first substrate, the plurality of cathode electrodes forming overlap regions corresponding to pixel regions with the at least one gate electrode and forming an opening between each pair of the plurality of cathode electrodes at a portion of the overlap regions;

an insulation layer formed between the at least one gate electrode and the plurality of cathode electrodes;

~~at least one~~ a pair of emitters formed in the opening and electrically connected to the cathode electrodes;

a second substrate opposing the first substrate with a predetermined gap therebetween, the first and second substrates forming a vacuum assembly when interconnected;

at least one anode electrode formed on a surface of the second substrate opposing the first substrate; and

phosphor layers formed on the second substrate electrically connected to the at least one anode electrode.

Appln No. 10/645,812

Amdt date March 2, 2005

Reply to Office action of December 2, 2004

2. (Currently Amended) The field emission display of claim 1, wherein the ~~at least one~~ pair of emitters is formed at a predetermined distance from each other and closely contacting the cathode electrode.

3. (Currently Amended) The field emission display of claim 1, wherein the ~~at least one~~ pair of emitters are longitudinal and extend in a direction of the pattern of the at least one gate electrode.

4. (Currently Amended) The field emission display of claim 1, wherein the ~~at least one~~ pair of emitters are carbon nanotubes.

5. (Original) The field emission display of claim 1, wherein the plurality of cathode electrodes are opaque.

6. (Currently Amended) The field emission display of claim 1, wherein the opening between each of the plurality of cathode electrodes ~~includes an opening in the overlap region and the at least one pair of emitters is formed in the opening~~ exposes the insulation layer to the phosphor layers.

7. (Currently Amended) The field emission display of claim 1, wherein the ~~at least one~~ pair of emitters are formed on one of the plurality of cathode electrodes in the overlap region.

Appln No. 10/645,812

Amdt date March 2, 2005

Reply to Office action of December 2, 2004

8. (Original) The field emission display of claim 1, further comprising: a metal mesh grid mounted between the first substrate and the second substrate, and including openings corresponding to the overlap regions.

9. (Currently Amended) The field emission display of claim 1, wherein the ~~at least one~~ pair of emitters are formed on the insulation layer.

10. (New) A field emission display, comprising:
a first substrate;
a gate electrode formed on the first substrate;
an insulation layer formed next to the gate electrode;
a plurality of cathode electrodes formed on the first substrate, the plurality of cathode electrodes forming an opening between each pair of the plurality of cathode electrodes and exposing the insulation layer;
a pair of emitters formed in the opening and electrically connected to the cathode electrodes;
a second substrate opposing the first substrate, the first and second substrates forming a vacuum assembly when interconnected;
an anode electrode formed on a surface of the second substrate; and
a phosphor layer formed on the second substrate electrically connected to the anode electrode.

Appln No. 10/645,812

Amdt date March 2, 2005

Reply to Office action of December 2, 2004

11. (New) The field emission display of claim 10, wherein the pair of emitters is formed at a predetermined distance from each other and closely contacting the cathode electrode.

12. (New) The field emission display of claim 10, wherein the pair of emitters are longitudinal and extend in a direction of the pattern of the at least one gate electrode.

13. (New) The field emission display of claim 10, wherein the pair of emitters are carbon nanotubes.

14. (New) The field emission display of claim 10, wherein the plurality of cathode electrodes are opaque.

15. (New) The field emission display of claim 10, wherein the pair of emitters are formed on one of the plurality of cathode electrodes in the overlap region.

16. (New) The field emission display of claim 10, further comprising: a metal mesh grid mounted between the first substrate and the second substrate, and including openings corresponding to the overlap regions.

17. (New) The field emission display of claim 10, wherein the pair of emitters are formed on the insulation layer.